

# Praktikum “The Bioinformatics Lab”

## Week 1: Installing a Linux OS

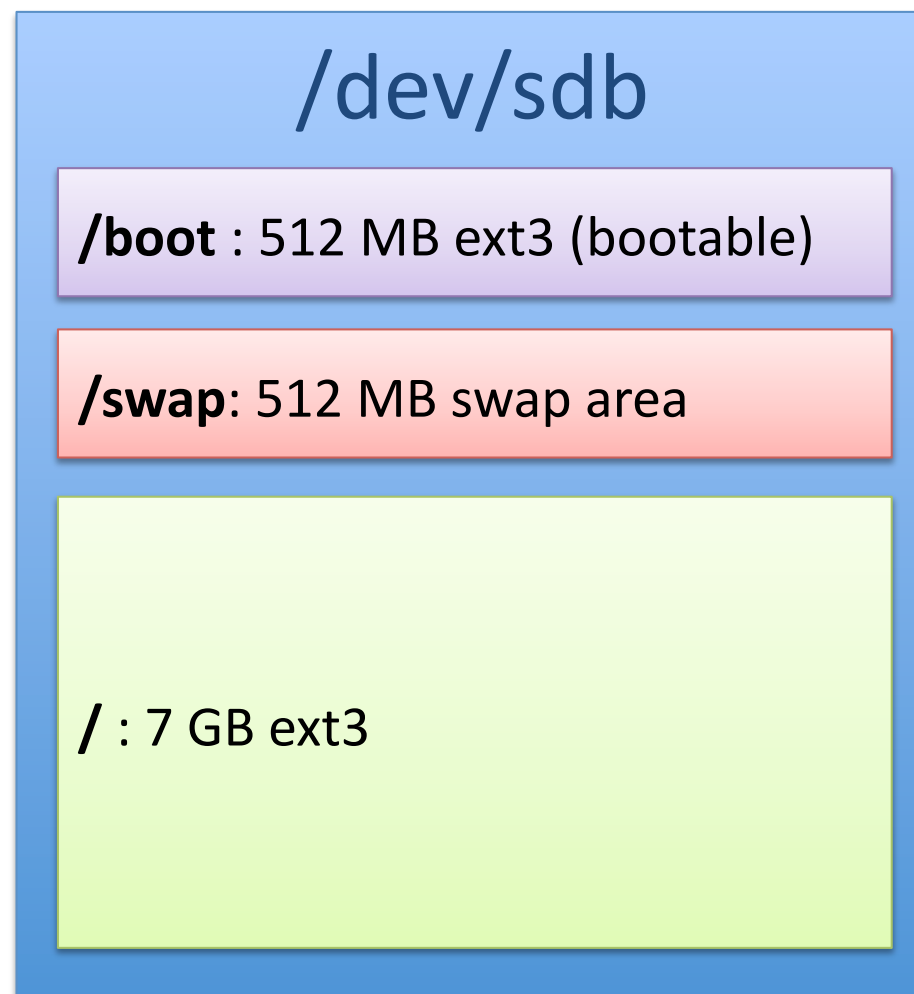
Stefan Seemayer

# Boot CD preparation

- Can boot from USB stick  
(on most systems, but not on mine),
- But burning a CD ISO image is much easier and more reliable, CD-Rs are cheap
- Images available from [www.debian.org/distrib/](http://www.debian.org/distrib/)
- Security updates need to be applied anyway, why not download packages from the internet right away? → netinst ISOs

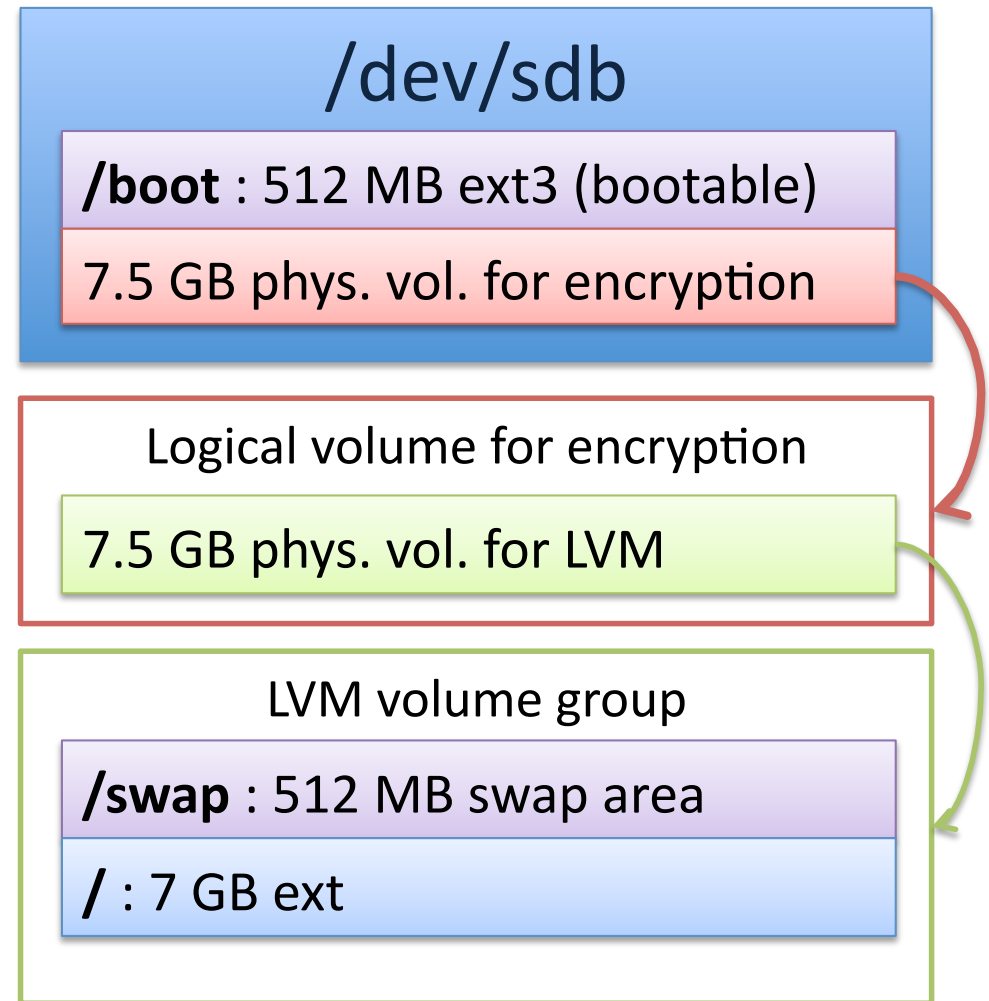
# Partitioning (unencrypted)

- Manual partitioning is always recommended
- Locate USB Stick (e.g. /dev/sdb)
- Don't touch anything else!
- Empty stick
- Create new partitions



# Partitioning (encrypted)

- **Physical volume for encryption**  
→ provides encrypted logical volume
- **Physical volume for Logical Volume Manager**  
→ provides multiple logical volumes
- See protocol for full instructions



# Installation

- Everything works smoother with a **working, wired** internet connection (or you have to configure network and package mirrors **manually** later on)
- Choose **strong** root password – attack point!
- Do a **minimal** installation, but choose at least the “basic system” package for a little comfort
- Bootloader installation: **manually** pick the USB stick Master Boot Record (e.g. /dev/sdb)

# Making it work

- GRUB boots the wrong partition
  - Run-time volume numbers <-> install-time numbers
  - Edit boot entry and guess hard disk numbers (hdX, 0)
  - Upgrade to GRUB2 (unique volume IDs to identify volumes): `$ aptitude install grub2`
- Encrypted volumes cannot be found
  - On Kernel load, it takes some time for USB device to work
  - Add timeout to boot options so that encrypted volume data can be found: `rootdelay=10`
  - Make permanent by editing `/boot/grub/grub.cfg`